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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/689,848	10/22/2003	Edward Tygard	1054	4220

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#40

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WASHINGTON, DC 20036

EXAMINER

KEENAN, JAMES W

ART UNIT

PAPER NUMBER

3652

DATE MAILED: 04/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/689,848

Applicant(s)

TYGARD, EDWARD

Examiner

James Keenan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 62-64, 75, 76, 83, 85 and 90-102 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 62-64, 75, 83, 85 and 90-102 is/are rejected.
- 7) ☒ Claim(s) 76 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

1. Claim 94 is objected to because of the following informalities: in line 6, the term "is" (after "rod") should be deleted. Appropriate correction is required.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 94 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In line 6, "the control rod ... portion" lacks antecedent basis.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 62-63, 93, and 95-102 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawamura (US 3,796,332, previously cited).

Kawamura shows a clamping apparatus comprising frame 7 to which four clamping arms 12-15 are pivotally mounted, each including contact portion 16-19 respectively, and drive mechanisms 26-29, wherein each of the clamping arms defines a parallel four bar linkage comprised of a lever portion and a control rod both respectively pivoted to the frame and the contact portion, so that the contact portions of

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the clamping arms maintain a constant angle with respect to vertical as the clamping arms are pivoted relative to the frame by the drive mechanisms. The arms are positioned on the frame such that they are "able to grasp a rectangular load from four sides of a load" as broadly and functionally claimed. For example, if a square (which is a type of rectangle) load was oriented at a 45 degree angle (about a vertical axis) with respect to the clamping arms, each arm would contact and thus "grasp" one side of the square, even though each arm would contact the load at only a single point. Nothing in applicant's claim precludes such an interpretation.

Although applicant argues that Kawamura provides "no disclosure or suggestion ... of clamping arms ... able to grasp four sides of a rectangular load", there doesn't have to be, because these arguments are pertinent to an obviousness rejection, not an anticipation rejection. Applicant's arguments are really directed to the rejection of now cancelled claims 87-89, which recited a method of using the apparatus of claim 62, and in which the examiner had indeed utilized an obviousness rejection. However, claim 62, even as amended, is not commensurate in scope with previous claims 87-89 because it is still merely a clamping apparatus *per se*. To anticipate an apparatus claim, a reference need only show the positively recited structural limitations and be capable of performing, without modification, any functional recitations, which Kawamura does. To anticipate a method, on the other hand, requires actual disclosure (or inherency) of the method steps, which is why Kawamura did not anticipate previous claims 87-89.

Re claim 93, each contact portion has "a ... planar surface ... extending between an upper and a lower edge" (emphasis added) thereof, as broadly claimed.

Re claim 95, based on the size of the apparatus, the contact portions of the arms are inherently considered "capable of being spaced from each other by at least 28 inches", as broadly and functionally claimed.

Similarly, re new claims 96-102, the separation distance between the contact portions can clearly change by the various dimensions without the angle of the contact portion with respect to vertical changing by more than the various angles.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 83 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura in view of Kovacs (US 5,192,179, previously cited).

Kawamura does not show the ability of the angle of the contact portion to be changed by adjusting the length of the control rod.

Kovacs shows a lift arm comprising a parallel four bar linkage system for maintaining a load handling implement at a constant angle with respect to vertical and which also includes a tilting linkage which changes the angle of the implement relative to the arm by adjusting the length of one of the link elements of the four bar linkage.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Kawamura by adding a tilt mechanism for

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the contact portion of the clamping arms, as suggested by Kovacs, as this is shown to be a desirable feature for improved load handling.

Applicant argues that in Kovacs only the end points of a fixed length link move to change the angle of the implement, rather than having an adjustable length link. While applicant is correct insofar as neither link elements 50 or 51 individually change length, nothing in the claim requires any particular element from being considered the "adjustable-length rod", which merely has to extend "alongside the lever portion" and have a "lower end pivotable with respect to the contact portion". Thus, the entire tilt mechanism 35 is considered to be the adjustable-length rod, which by extension and retraction of rod 47 of cylinder 48 the total length thereof can be changed. Applicant is not claiming any particular means for or manner of adjusting.

8. Claims 64, 75 and 94 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura in view of Molby (US 4,422,818).

Kawamura does not show the control rod used for adjusting the angle of the contact portion with respect to the vertical by being adjustable in length.

Molby shows a lifting implement wherein a four-bar linkage arrangement is utilized to maintain lifting prongs 31 at a constant angle as they are moved vertically, and wherein a hydraulic cylinder 51 changes the length of a control rod element of the four-bar linkage in order to tilt the lifting prongs as desired (see col. 2, lines 16-34).

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Kawamura by utilizing an adjustable length

control rod for adjusting the angle of the contact portion of the clamping arms, as suggested by Molby, as this would provide improved load handling.

Re claim 94, the contact portion of the clamping arms of Kawamura include elongated rigid panels with a surface to oppose a load, as clearly shown in the drawings, and "mounting lugs" pivotably connected to the lower ends of the lever portions and control rods, as at 20, 21, etc. Although the upper ends of the lever portions and control rods are pivotably connected to the frame with u-joints rather than with a single degree of freedom, it nevertheless would have been obvious for one of ordinary skill in the art at the time of the invention to have modified Kawamura by connecting the lever portions and control rods to the frame with a single degree of freedom pivot, if it was unnecessary to adjust the arms parallel to the length of the load.

9. Claims 62, 63, 85, 90-93, and 95-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tygard (US 5,516,255, previously cited) in view of Kawamura.

Tygard shows a clamping apparatus for grasping a rectangular layer of articles on a pallet from four sides and lifting the layer, comprising four clamping arms positioned on a frame to grasp the rectangular load from four sides, wherein each clamping arm includes a contact portion for contacting the load, a lever portion pivotally connected to the frame and the contact portion, and a drive mechanism for pivoting the clamping arm with respect to the frame.

Although Tygard shows the clamping arms able to adjust to different sized loads (see figs. 3B, 3C), it does not utilize a four-bar linkage which controls an angle of the contact portion with respect to the vertical as the clamping arm pivots.

As noted above, Kawamura shows a clamping apparatus with four clamping arms each comprising a four bar linkage with such a feature.

It would have been obvious for one of ordinary skill in the art at the time of the invention to have modified the apparatus of Tygard such that it utilized a four-bar linkage to control the angle of the contact portion of each clamping arm, as shown by Kawamura, as this would be a more effective means of enabling the clamping arms to properly pick up loads of varying size.

Re claims 85, 90, and 91, Tygard teaches the method steps as claimed.

Re claim 92, to have set the contact portions such that they contacted the load at a downward slope of 2-6 degrees with respect to the side of the load would have been an obvious design expediency based on the characteristics of the load to be handled. Note that the claim does not require the angle of the contact portion to be adjustable.

10. Applicant's arguments filed 2/16/06 have been fully considered but they are not persuasive. These arguments have been addressed above.

11. Applicant's arguments with respect to claims 64, 75, 85, 90-92 and 94 have been considered but are moot in view of the new ground(s) of rejection.



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12. Claim 76 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

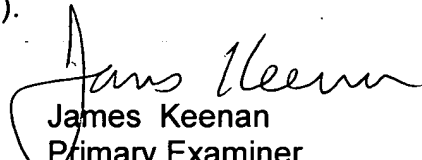
14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Keenan whose telephone number is 571-272-6925. The examiner can normally be reached on (schedule varies).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eillen Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
James Keenan  
Primary Examiner  
Art Unit 3652

jwk  
4/19/06